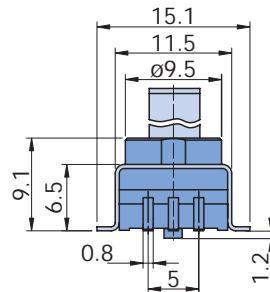
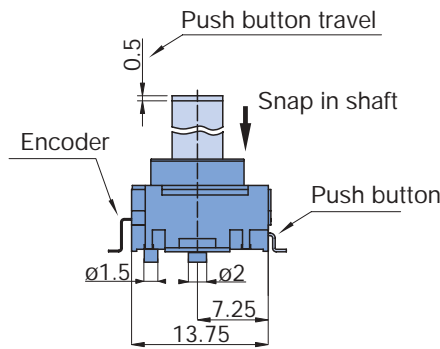


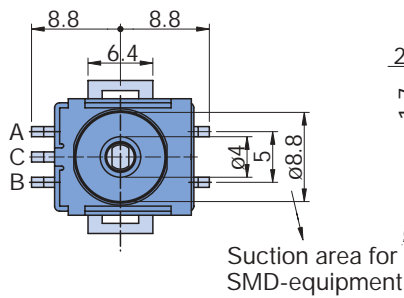
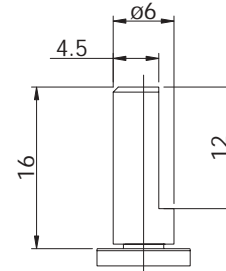
Mechanical Encoders

Incremental Encoder Type E20

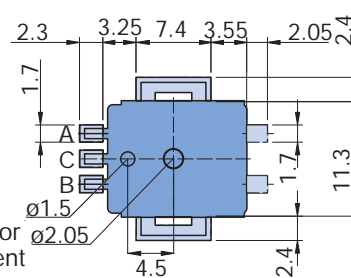
Vertical



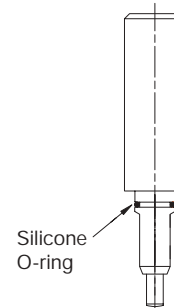
Shaft dimension



Soldering-pad-layout

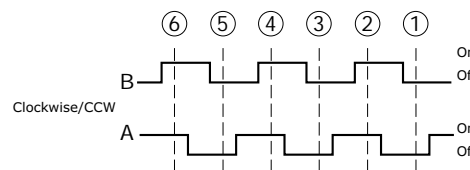
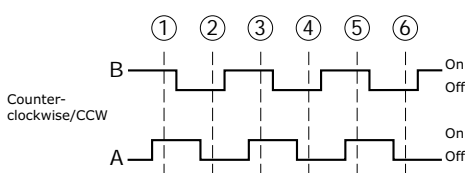


Saeled / O-ring



(separately enclosed)

Pulse diagram



Description

Incremental encoder with 16 or 30 pulses per rotation. CW/CCW identified by the phase lag of the two signals.

With push button actuation.

Modifiable aluminium shaft.

Positive positioning indexing with high rotational life.

Contact material Au

Indexing with position indexing 16 or 30 (available without indexing)

Mechanical Encoders

Incremental Encoder Type E20

Technical information encoder

Mechanical data

Indexing mechanism

22,5° = 16 positions
12° = 30 positions
(without stop)

Switching torque (new)

Standard:
1,5Ncm / 2,5Ncm +/- 50%

Vibration resistance

10 – 500 Hz / 50 g

Temperature range

Storage temperature:
– 55 °C to + 90 °C
Operating temperature:
– 40 °C to + 85 °C

Mechanical life

> 100 000 rotations (1,5Ncm)
> 10 000 rotations (2,5 Ncm)

Material data

Shaft

Aluminium

Insulation (housing)

Thermoplast UL-94-VO

Sliding contacts

Alloy copper, gold plated

Pins

Tinned

Soldering data

Handsoldering

Plastic wafer ≤ 3 s / ≤ 300 °C

Machine soldering

Wave ≤ 5 s / ≤ 260 °C
Reflow ≤ 5 s / ≤ 260 °C

Various

IP protection degree

IP 65

Packing

Tape & Reel: 250 pcs
Palette: 80 pcs

Electrical data

Output signal

Encoders: increment
Push button: pulse

Encoder

16 position 8 pulses / 360°
30 position 15 pulses / 360°

Switching voltage

≤ 5 V

Switching current

min. 1 mA
max. 10 mA

Contact bouncing (new)

max. 2 ms at 60 U/min

Difference of phase (new)

min. 6 ms at 60 U/min

Insulation resistance 250 VDC

≥ 100 mΩ

Resistance of phase

300 V~/min

Contact resistance

< 100 mΩ in new condition
< 500 mΩ after 100 000 rotations

Technical information push-button

Mechanical data

Push-button travel

0,5 mm

Operating force

3 N or 6 N +/- 50%

Push/pull strength on shaft

max. 50 N/10 s

Temperature range

Storage temperature:
– 55 °C to + 90 °C
Operating temperature:
– 40 °C to + 85 °C

Life

> 100 000 travels

Electrical data

Switching voltage

≤ 16 V

Switching current

min. 10 mA
max. 300 mA

Insulation resistance at 250 V

≥ 100 MΩ

Contact resistance

< 100 mΩ in new condition
< 200 mΩ after 100 000 travels

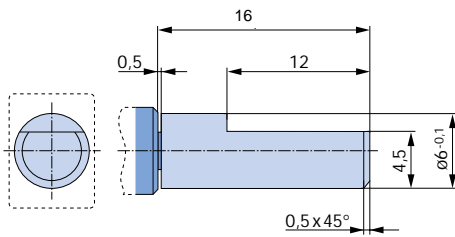
Special Options

Incremental Encoder Type E20

Special Options to Incremental Encoder Type E20

To order a special option please use the order form on page 82. Please specify your requirements and fax it to your local contact or to Elma.

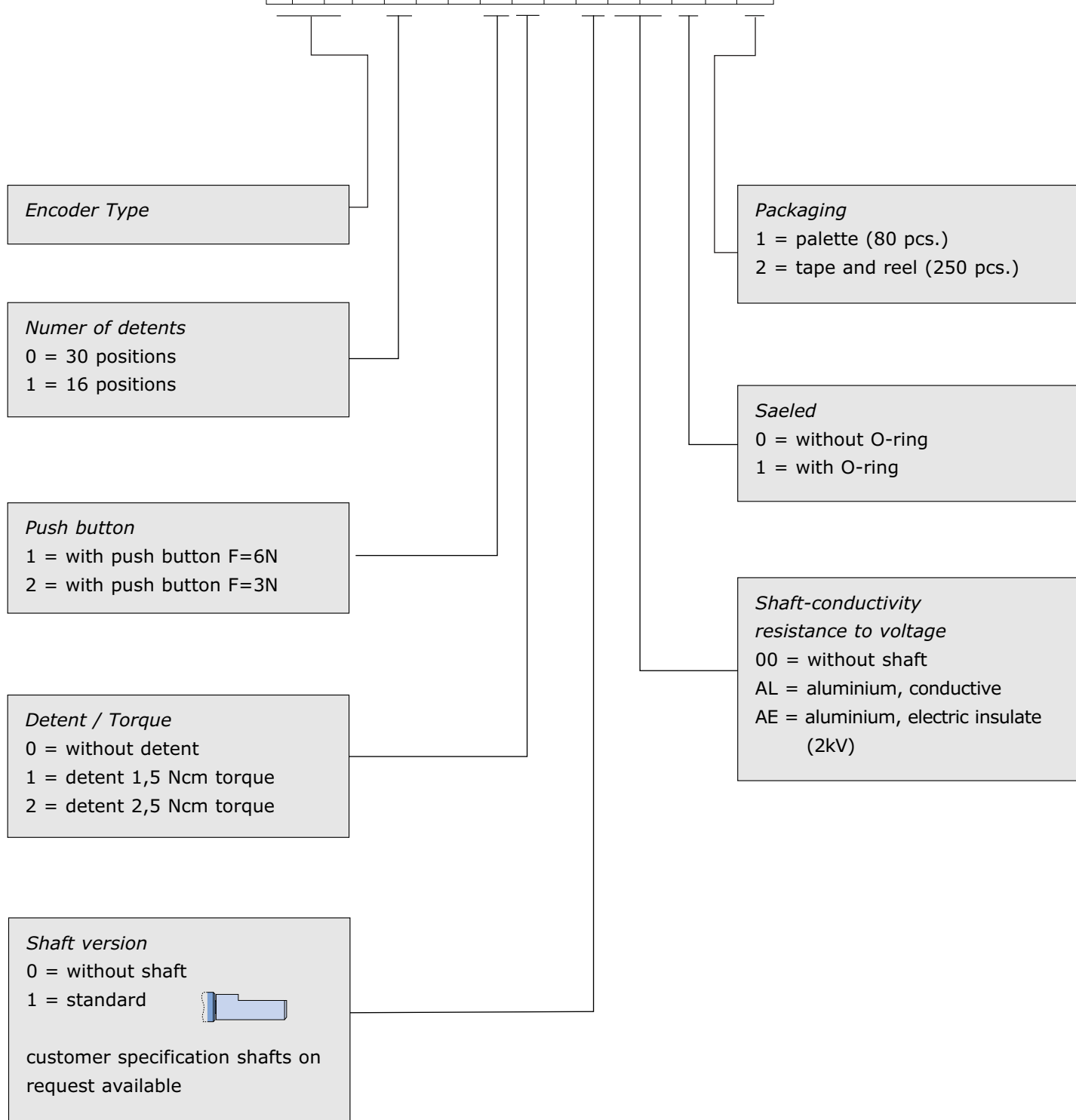
Special shafts (existing ones)



Standard (D-Shaft) No. 1

Ordering Code Type E20

E 2 0 - X - 5 X X 4 X X X X 0 X



Order Form for Special Options for Incremental Encoders Type E20



Copy – Fill in – Fax

Quote request Order

Company		Customer No.	
Address			
		Phone	
Name		Fax	
		e-mail	
Quantity		Requested delivery date	
Similar to order No.		With integrated push-button switch <input type="checkbox"/>	
Vertical version <input type="checkbox"/>			
Pulses per rotation <input type="checkbox"/> 30		Pulses per rotation <input type="checkbox"/> 16	
Indexing		Switching torque Standard 1,5 Ncm <input type="checkbox"/>	
		Switching torque Spezial 2,5 Ncm <input type="checkbox"/>	
		Without Indexing <input type="checkbox"/>	
O-ring shaft <input type="checkbox"/>		IP protection degree	

Sketch (additional technical requirements / comments)